BEL FUSE INC.

198 Van Vorst Street

Jersey City 2, New Jersey

(201) HE 2-0463 TWX (201) 432-6899

PRODUCTS FOR ELECTRONICS

bel | BEL FUSE INC.

198 Van Vorst Street, Jersey City 2, New Jersey ■ 201 HEnderson 2-0463
TWX 201 432-6899

THANK YOU ----------

Your request for our catalog is much appreciated.

We trust that this information will aid you in specifying your delay line requirement.

From our low cost color television units, to our NANALINE - C (tm), we have attempted to make available to industry a single source for electromagnetic delay lines of all types, sizes and performance characteristics.

This catalog, however, can do no more than give an indication of the capabilities we possess. Aside from the standard items presented, our engineering versatility allows us to design and build an unlimited variety of unique delay lines tailored to your exact requirements.

We look forward to being of service to you and your company.

Very truly yours,

BEL FUSE INC.

Arnold L. Sutta
Sales Manager

ALS:fc
encl.

bel DELAY

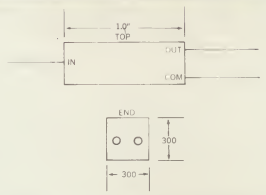
PART NUMBER IMPEDANCE ±10% 93Ω	200Ω	500Ω	1000Ω	DELAY TIME ±5%	RISE TIME (Max.)	Configuration	LEAD SPACING "S" INCHES	LENGTH "L" INCHES
NANOSECOND								
HN905	HN205	HN505	HN1005	5	2.0	A	—	1
HN910	HN210	HN510	HN1010	10	2.0	A	—	1
HN915	HN215	HN515	HN1015	15	2.5	B	—	1
HN920	HN220	HN520	HN1020	20	2.5	B	—	1
NL925	NL225	NL525	NL1025	25	2.5	C	—	2.25
NL930	NL230	NL530	NL1030	30	3.0	C	—	2.25
NL935	NL235	NL535	NL1035	35	3.2	C	—	2.25
NL940	NL240	NL540	NL1040	40	3.7	C	—	2.25
NL945	NL245	NL545	NL1045	45	4.1	C	—	2.25
NL950	NL250	NL550	NL1050	50	4.6	C	—	2.25
NL955	NL255	NL555	NL1055	55	5.0	C	—	2.25
NL960	NL260	NL560	NL1060	60	5.5	D	—	2.25
NL965	NL265	NL565	NL1065	65	5.9	D	—	2.25
NL970	NL270	NL570	NL1070	70	6.4	D	—	2.25
NL975	NL275	NL575	NL1075	75	6.9	D	—	2.25
NL980	NL280	NL580	NL1080	80	7.3	D	—	2.25
NL985	NL285	NL585	NL1085	85	7.8	D	—	2.25
NL990	NL290	NL590	NL1090	90	8.2	D	—	2.25
NL995	NL295	NL595	NL1095	95	8.6	D	—	2.25
	NL2100	NL5100	NL10100	100	8.0	D	—	2.25
	NL2200	NL5200	NL10200	200	16.0	E	1.20	1.80
	NL2250	NL5250	NL10250	250	20	E	1.20	1.80
	NL2300	NL5300	NL10300	300	24	E	2.20	3.00
	NL2400	NL5400	NL10400	400	32	E	2.20	3.00
	NL2500	NL5500	NL10500	500	40	E	2.20	3.00
	NL2600	NL5600	NL10600	600	48	E	2.20	3.90
	NL2700	NL5700	NL10700	700	56	E	2.20	3.90
	NL2750	NL5750	NL10750	750	60	E	3.40	4.25
	NL2800	NL5800	NL10800	800	64	E	3.40	4.25
	NL2900	NL5900	NL10900	900	72	E	4.40	5.25
	MM21K	MM51K	MM101K	1.0	.08	E	4.40	5.25
MICROSECOND								
	DC21.5K	DC51.5K	DC101.5K	1.5	.15	F	WIDTH =	.8
	DC22K	DC52K	DC102K	2.0	.20	F	WIDTH =	.8
	DC22.5K	DC52.5K	DC102.5K	2.5	.25	F	WIDTH =	.8
	DC23K	DC53K	DC103K	3.0	.30	F	WIDTH =	1.2
	DC23.5K	DC53.5K	DC103.5K	3.5	.35	F	WIDTH =	1.2
	DC24K	DC54K	DC104K	4.0	.40	F	WIDTH =	1.2
	DC24.5K	DC54.5K	DC104.5K	4.5	.45	F	WIDTH =	1.2
	DC25K	DC55K	DC105K	5.0	.50	F	WIDTH =	1.2

Please contact our engineering department for a wide range of 93 ohm delay lines

MICRO-MODULE DELAY LINE

This delay line has been specifically designed to fit on top of a standard .8" x .350" x .090" micro module circuit. A wide variety of delays up to 20 nsec, tapped or divided into discrete units, are available. Impedance 100Ω.

A



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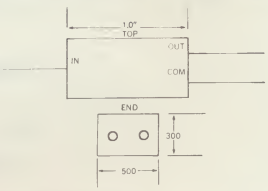

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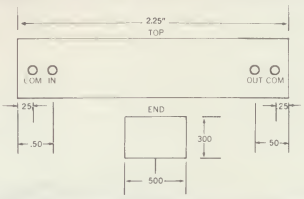

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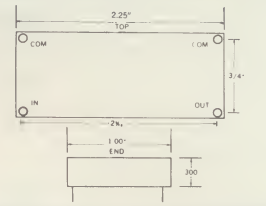

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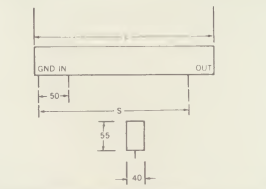

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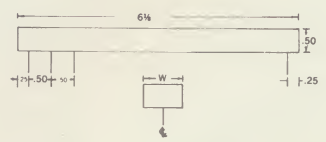


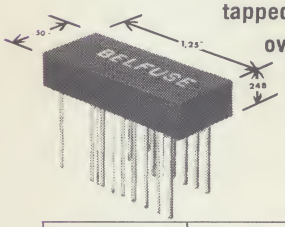
If your specific requirements are not met by stock items, contact BEL's Engineering Department for other delay line models available to order. Fast prototype service is assured.

bel BEL FUSE INC. 203 VAN VORST STREET • JERSEY CITY 2, NEW JERSEY
TELEPHONE 201-HE 2-0463 TWX (201) 432-6899

LINES

DEFINING A DEGREE OF EXCELLENCE IN DELAY LINE TECHNOLOGY

TAPPED DELAY LINE

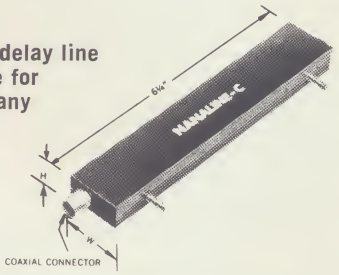


A new delay line tapped every nanosecond over the entire delay range of 15 nsec. Highly stable, miniaturized construction.

PART NUMBER	IMPEDANCE	RISE TIME
BF-14-155-1	93 ohms	7 nsec. max.
BF-14-155-2	200 ohms	7 nsec. max.
BF-14-155-3	500 ohms	7 nsec. max.

NANALINE-C ™

NANALINE—C ™ is a unique product incorporating many new refinements in delay line technology. This construction is suitable for oscilloscope timing applications, and many precise pulse circuitry requirements. NANALINE—C ™ is available in a wide range of delays and configurations, including integral matched pairs.

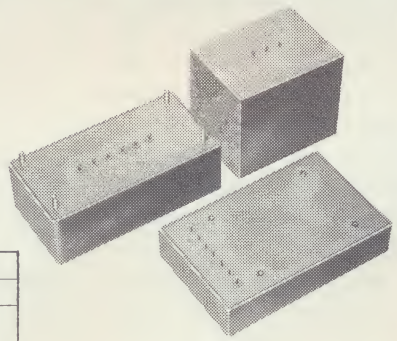


MODEL	DELAY	Tr	W in.	H in.
NL-C-9350	50	1.4	2¾	¾
NL-C-93100	100	2.0	5¼	¾
NL-C-93200	200	4.0	5¼	1"

TIME DELAYS—5-200 NSEC
IMPEDANCES—50 & 93 OHMS
RISE TIME—UP TO 50: 1
HERMETICALLY SEALED
COAXIAL CONNECTIONS

HIGH DENSITY MULTIMICROSECOND DELAY LINES

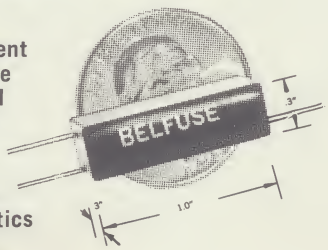
A full range of lumped constant delay lines is now available. Using off the shelf components, Bel Fuse is capable of offering excellent design, High Density Packaging, and speedy delivery



TD/TR	50/1	20/1	10/1
DELAY μSEC	1-100	1-50	1-25
IMPEDANCE OHMS	50-1000	50-1000	50-1000
ATTEN & DIST	Low	Low	Low
CONSTRUCTION	Hermetic Case		Encapsulated

COAX COMPATIBLE 93 Ω SERIES

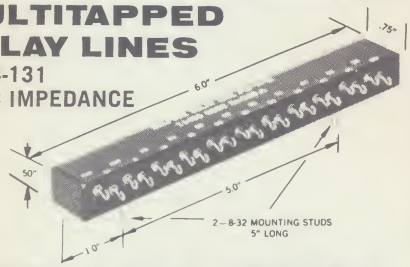
This 93 Ω Coax-Compatible component is available in a wide range of nanosecond delays. Suitable for Printed Circuit mounting, this miniature delay line exhibits characteristics suitable to the most exacting requirements.



TYPICAL SPECIFICATIONS: BF-11-206
DELAYS: 1-10 NSEC
RISE TIME: 6 NSEC MAX
WITH 4 NSEC INPUT
100 VOLT TEST

MULTITAPPED DELAY LINES

BF-14-131
500 Ω IMPEDANCE

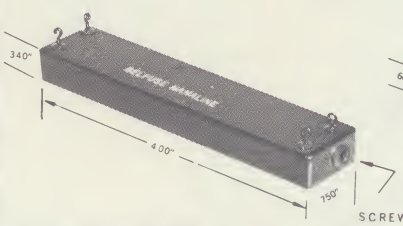


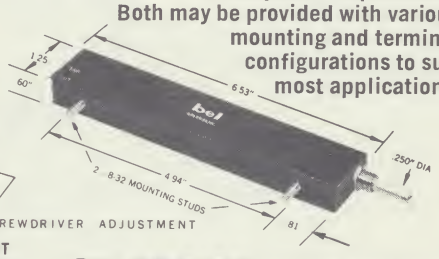
P/N	Delay	Rise time	Taps
	NANOSECONDS		
A	100	8	5
B	500	40	25
C	1,000	80	50
D	5,000	500	250
E	10,000	1,000	500

Available in wide range of delay & impedance values, with up to twenty taps.

VARIABLES

These precision hermetically sealed variables are available in a wide range of delays and impedances. Both may be provided with various mounting and terminal configurations to suit most applications.





NV SERIES 12 TURN ADJUSTMENT

Part No.	Delay Range Nanoseconds	Impedance	Rise Time Maximum
NV250	0-50	200Ω	6 nsec.
NV540	0-40	500Ω	6 nsec.
NV10150	0-150	1000Ω	20 nsec.
NV5250	0-250	500Ω	30 nsec.

CV SERIES 10 TURN ADJUSTMENT

Part No.	Delay Range Nanoseconds	Impedance	Maximum Rise Time
CV5700	0-700	500Ω	80 nsec.
CV5750	0-750	500Ω	80 nsec.
CV10450	0-450	1000Ω	75 nsec.

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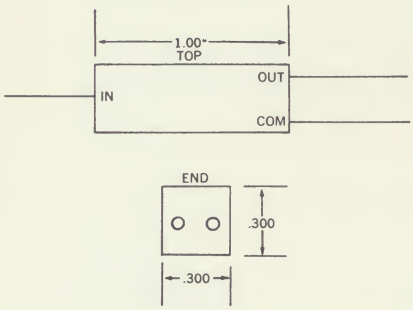
bel

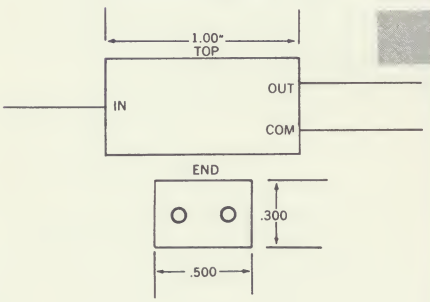
NANALINES™ DISTRIBUTED CONSTANT MILLIMICROSECOND DELAY LINES

DIMENSIONS

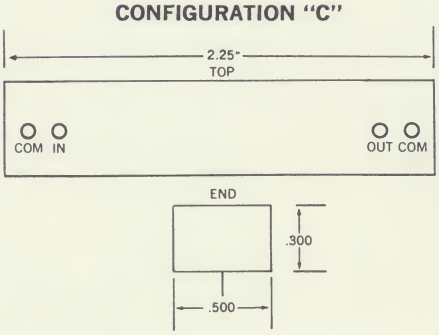
CONFIGURATION "A"



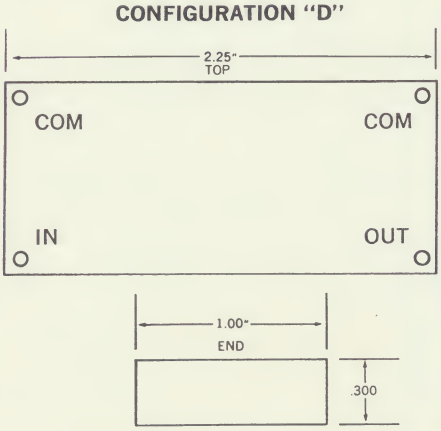
CONFIGURATION "B"

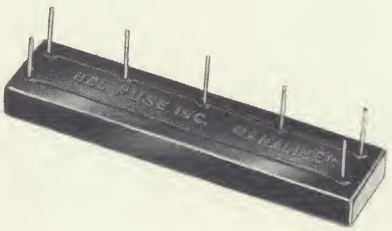


CONFIGURATION "C"



CONFIGURATION "D"





Where high speed pulse circuitry requires fast rise time delay lines with excellent pulse form fidelity and low attenuation—specify NANALINE.™

This new delay concept for computer and other fast rise time pulse applications features—

- Extremely fast rise time and excellent pulse fidelity.
- 300 volt test, −25°C to +75°C operation.
- Complete Nanosecond delay selection in stock.
- Dramatic cost saving over comparable circuitry.

SPECIFICATIONS

Part Number Impedance ±10% 200Ω	500Ω	1000Ω	Delay ±5% Nanoseconds	Rise Time Max.	Configuration
HN SERIES					
HN205	HN505	HN1005	5	9 nsec. for 100 nsec. Delay	A
HN210	HN510	HN1010	10		A
HN220	HN520	HN1020	20		B
NL SERIES					
NL205	NL505	NL1005	5		C
NL210	NL510	NL1010	10		C
NL220	NL520	NL1020	20		C
NL225	NL525	NL1025	25		C
NL250	NL550	NL1050	50		C
NL275	NL575	NL1075	75		D
NL2100	NL5100	NL10100	100		D
NLT SERIES					
NLT295	NLT595	NLT1095	100 tapped at 95 nsec.		D
NLT290	NLT590	NLT1090	100 tapped at 90 nsec.		D
NLT285	NLT285	NLT1085	100 tapped at 85 nsec.		D
NLTM SERIES					
NLTM250	NLTM550	NLTM1050	50 tapped every 5 nsec.		C
NLTM 2100	NLTM 5100	NLTM 10100	100 tapped at 85, 90, 95 nsec.		D

If your specific requirements are not met by stock items, contact BEL's Engineering Department for other delay line models available to order. Fast prototype service is assured.

BEL FUSE INC.

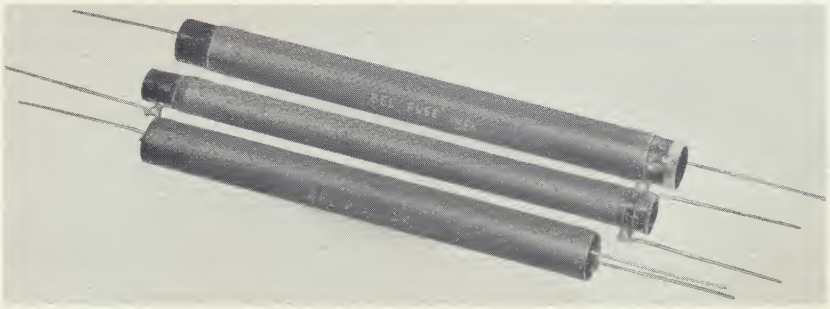
198 Van Vorst Street, Jersey City 2, New Jersey
(201) HE 2-0463 TWX (201) 432 6899

NANALINE DISTRIBUTED CONSTANT MILLI-MICROSECOND DELAY LINES
BULLETIN 103-A

COLOR TELEVISION DELAY LINES

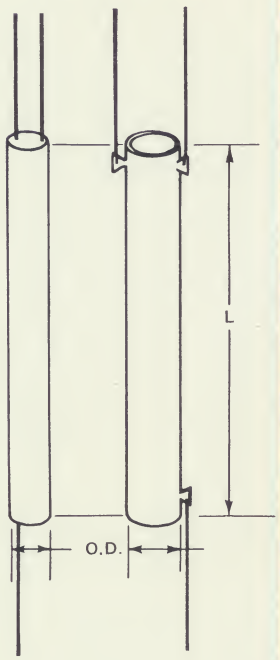
FEATURING

LOW COST
HIGH RELIABILITY
FIELD TESTED



BEL has pioneered in the development of low cost high quality delay lines for color television. Designed to meet individual circuit requirements. Stock items available from production listed below.

DIMENSIONS



OPTIONAL
LEAD
CONFIGURATION

SPECIFICATIONS

Part No.	Delay ±5%	Impedance ±10%	Rise Time	Delay Characteristic	DIMENSIONS	
					L	O.D.
CTV59-3	.3μs	3900 ohms	less	linear	5"	.625"
4	.4		than		5"	
5	.5		.11μs		5"	
6	.6		for		7"	
7	.7		.8μs		7"	
8	.8		delay		7"	
CTV60-3	.3μs	1500 ohms	less	linear	4"	.375"
4	.4		than		4"	
5	.5		.1μs		5⅞"	
6	.6		for		5⅞"	
7	.7		.7μs		5⅞"	
			delay			
CTV61-3	.3μs	1500 ohms	les	non-linear	4"	.550"
4	.4		than		4"	
5	.5		.5μs		5⅞"	
6	.6		for		5⅞"	
7	.7		.8μs		5⅞"	
8	.8		delay		5⅞"	

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BEL FUSE INC.

198 Van Vorst Street, Jersey City 2, N.J.
HEnderson 2-0463 TWX JCY 963

NANOSECOND DELAY LINE LABORATORY KITS

TIME DELAY
ENGINEERING KIT
FOR DEVELOPMENT,
TEST, EXPERIMENTATION.

Complete delay time flexibility in high quality laboratory units.

KIT-1000
Offers continuous delay flexibility from 0-1000 nanoseconds.
Price $55.00

KIT-2500
Offers continuous delay flexibility from 0-2500 nanoseconds.
Price $70.00

SPECIFICATIONS

KIT-1000

IMPEDANCE 500Ω

Model	Delay nsec ±2%	Rise Time Max.	Dimensions (inches)		
			Length	Height	Width
Precision Variable Delay NV250	0-250	30 nsec	4.0	.750	.375
602-25F	250	25 nsec	1.80	.55	.40
602-5F	500	50 nsec	3.00	.55	.40
*NL505	5	1 nsec	2.25	.30	.50

*Included at no additional cost for test and evaluation

KIT-2500

IMPEDANCE 500Ω

Model	Delay nsec ±2%	Rise Time Max.	Dimensions (inches)		
			Length	Height	Width
Precision Variable Delay CV5700	0-750	80 nsec	6.5	.62	1.25
602-75F	750	55 nsec	4.25	.55	.40
602-10F	1000	75 nsec	5.25	.55	.40
*NL505	5	1 nsec	2.25	.30	.50

*Included at no additional cost for test and evaluation

Individual units can be provided for any specific delay. Contact our Engineering Department for minimum sized units at minimum cost.

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VARIABLE NANOSECOND DELAY LINES

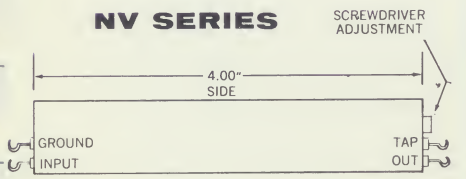
- Precision fine delay tuning
- Hermetically sealed
- Continuous adjustment

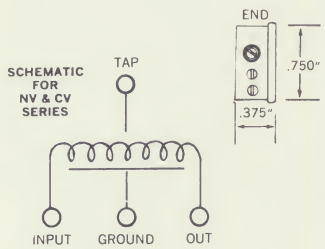
CV SERIES
VARIABLE
DELAY LINES

NV SERIES
VARIABLE
DELAY LINES

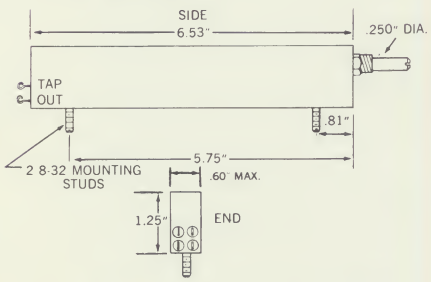
DIMENSIONS

NV SERIES





CV SERIES



SPECIFICATIONS

NV SERIES — 12 TURN ADJUSTMENT

Part No.	Delay Range Nanoseconds	Impedance	Rise Time Maximum
NV250	0-50	200Ω	6 nsec.
NV540	0-40	500Ω	6 nsec.
NV10150	0-150	1000Ω	20 nsec.
NV5250	0-250	500Ω	30 nsec.

This case size is readily adaptable to many delay ranges and impedance values. Other lead configurations are also available. Ideal for printed circuit mounting.

CV SERIES — 10 TURN ADJUSTMENT

Part No.	Delay Range Nanoseconds	Impedance	Rise Time Maximum
CV5700	0-700	500Ω	80 nsec.
CV5750	0-750	500Ω	80 nsec.
CV10450	0-450	1000Ω	75 nsec.

Variations from standard units are readily available. Suitable for panel mounting, manual adjustment, or remote servo operation.

Contact our engineering staff for application or specification assistance, immediate delivery on standard or special.

BEL FUSE INC.

198 Van Vorst Street, Jersey City 2, New Jersey
(201) HE 2-0463 TWX (201) 432 6899

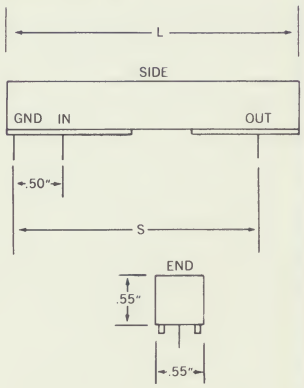
LOW ATTENUATION NANOSECOND DELAY LINES

- **Low Attenuation —** Less than .1 DB
- **Low DC Resistance**
- **Excellent Pulse Fidelity**
- **300 Volt Test**
- **−25°C to +75°C operation**

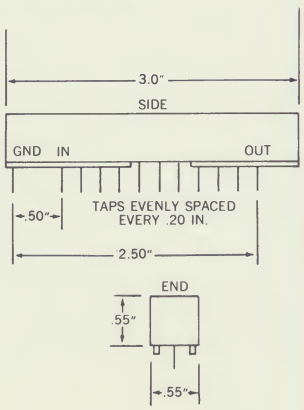
A complete line of Low Attenuation Nanosecond Delay Lines is available for immediate delivery. All components are stocked for prompt service.

DIMENSIONS

AL SERIES



ALTM SERIES



SPECIFICATIONS

AL SERIES

IMPEDANCE 500Ω

Part No.	Delay ±5% Nanoseconds	Rise Time Max. Nanoseconds	Maximum D.C. Resistance	Length (Inches)	Lead Spacing "S"
AL550	50	20	1.0Ω	1.5	1.0
AL5100	100	30	2.0Ω	2.0	1.5
AL5125	125	30	2.5Ω	2.5	1.7
AL5150	150	35	3.5Ω	3.0	2.3
AL5200	200	35	4.0Ω	3.5	2.9

ALTM SERIES

IMPEDANCE 500Ω

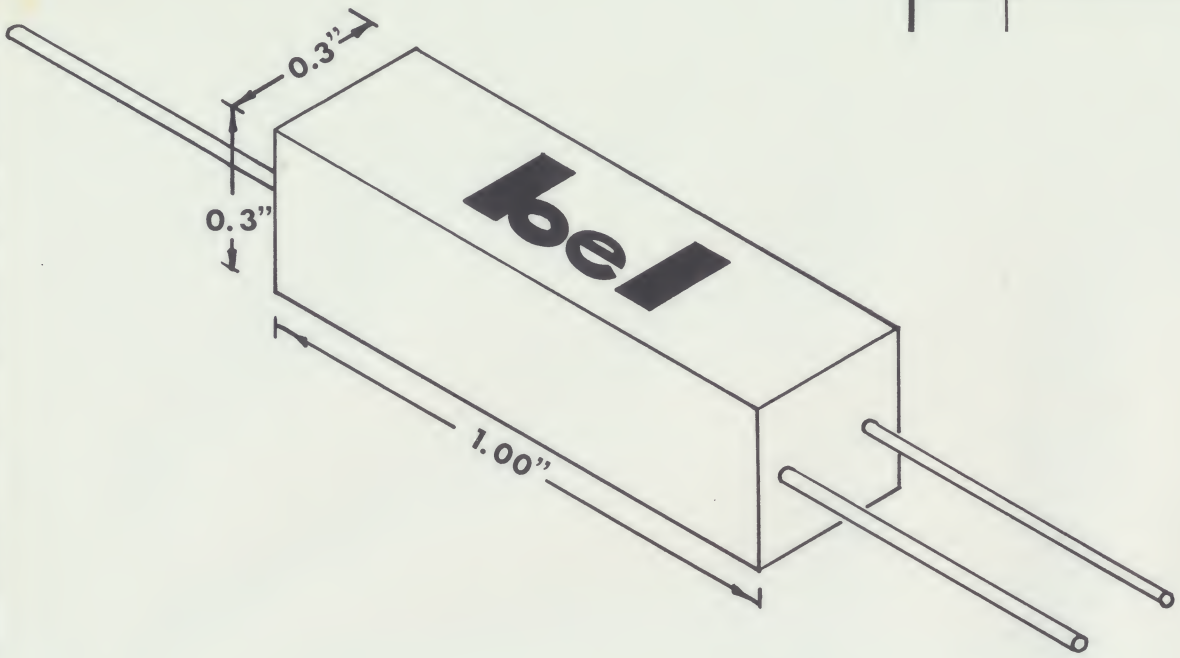
Part No.	Delay ±5% Nanoseconds	Rise Time Max. Nanoseconds	Maximum D.C. Resistance	Length (Inches)	Lead Spacing "S"
ALTM550	50 tapped every 5 nsec.	10	5Ω	3.0	See Diagram
ALTM5100	100 tapped every 10 nsec.	30	2Ω	3.0	See Diagram

The listed items are only an indication of the large variety of delay lines available with no engineering or tooling charge. Contact our engineering department for solutions to your delay line problems.

BEL FUSE INC.

198 Van Vorst Street, Jersey City 2, New Jersey
(201) HE 2-0463 TWX (201) 432 6899

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL



AN ENTIRELY NEW SERIES OF INEXPENSIVE, MINIATURE, 90 MEGACYCLE BANDWIDTH, LOW IMPEDANCE DELAY LINES. THESE DELAY LINES ARE SUITABLE FOR PULSE FORMING CIRCUITRY, DIGITAL STORAGE DEVICES, AND MANY OTHER HIGH SPEED APPLICATIONS.

ELECTRICAL SPECIFICATIONS:

1. DELAYS AVAILABLE: 1-10 nsec $\pm$10%
2. IMPEDANCE: 100 ohms $\pm$10%
3. RISE TIME: 6 nsec maximum on largest unit, with 4 nsec input pulse.
4. 100 volt test
5. TEMPERATURE RANGE: -25°C to + 75°C

MATERIAL: ENCAPSULATED EPOXY CASE	FINISH	HEAT TREAT	
		WEIGHT	

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRAC.	DEC.	ANG.
± 1/64	± .005	± 30′

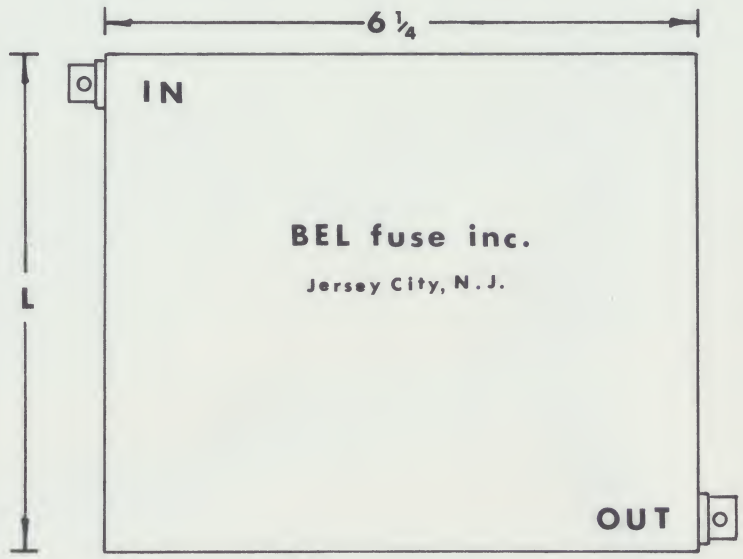
TITLE: **90 megacycle delay line**

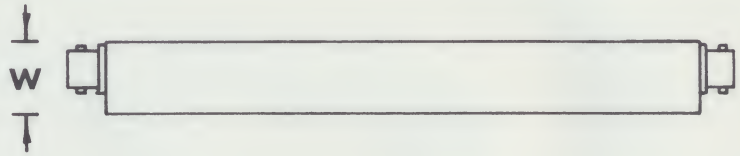
BEL FUSE INC. JERSEY CITY, N.J.

SCALE	NO. REQ'D
NONE	
NEXT ASSY.	

DRAWN EHZ	DATE 2-11-65	SIZE	DRAWING NUMBER	ISSUE
CHECKED	DATE		BF-11-017	cat. A
APPROVED WRG	DATE 2-12-65			

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL





NANALINE - C **93 OHM**

MODEL	DELAY	T_r	L in	W in
NL-C 9350	50 nsec	1.4	2 3/4	3/4
NL-C 93100	100 nsec	2.0	5 1/4	3/4
NL-C 93150	150 nsec	3.0	5 1/4	1
NL-C 93200	200 nsec	4.0	5 1/4	1

BNC connectors

ELECTRICAL SPECIFICATIONS:

DELAY TOLERANCE: ± 5%
IMPEDANCE TOLERANCE: ± 5%
100 VOLTS TEST
TEMPERATURE RANGE:
-25°C to +75°C

MATERIAL METAL CONTAINER	FINISH HERMETICALLY SEALED	HEAT TREAT / WEIGHT
DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED: FRAC. ± 1/64; DEC. ± .005; ANG. ± 30′	TITLE: **NANALINE - C** 93 OHM	bel BEL FUSE INC. JERSEY CITY, N.J.
SCALE NONE; NO. REQ'D; NEXT ASSY.	DRAWN EHZ DATE 4/15/64; CHECKED DATE; APPROVED WRG DATE 4/16/64	SIZE; DRAWING NUMBER BF-20-111; ISSUE cat A

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL

NANALINE - C

NANALINE - C is a significant improvement in delay line technology developed at the laboratories of BEL FUSE. This refinement of the distributed constant delay line more closely approaches the high quality characteristics of coaxial transmission cable than any other distributed line development to date. Its high bandpass, fast rise time, and relatively small size make it ideal for the replacement of coaxial cable in many applications.

TIME DELAYS: From 5 to 200 nanoseconds.

IMPEDANCES: 93 Ohms standard. Other impedances are available.

RISE TIME MEASUREMENT: $Tr = \sqrt{Tr_o^2 - Tr_i^2}$ where Tr_o and Tr_i are the time lapses measured between the 10% and 90% amplitude points on the output and input pulses respectively.

RISE TIME: Using .8 nanosecond input pulse (Tr_i), for a 100 nanosecond delay, Tr may be as low as 2 nanoseconds.

CONSTRUCTION: Hermetically sealed steel containers. BNC, MICRODOT, or other type coaxial connectors are available for direct connection to coaxial cable.

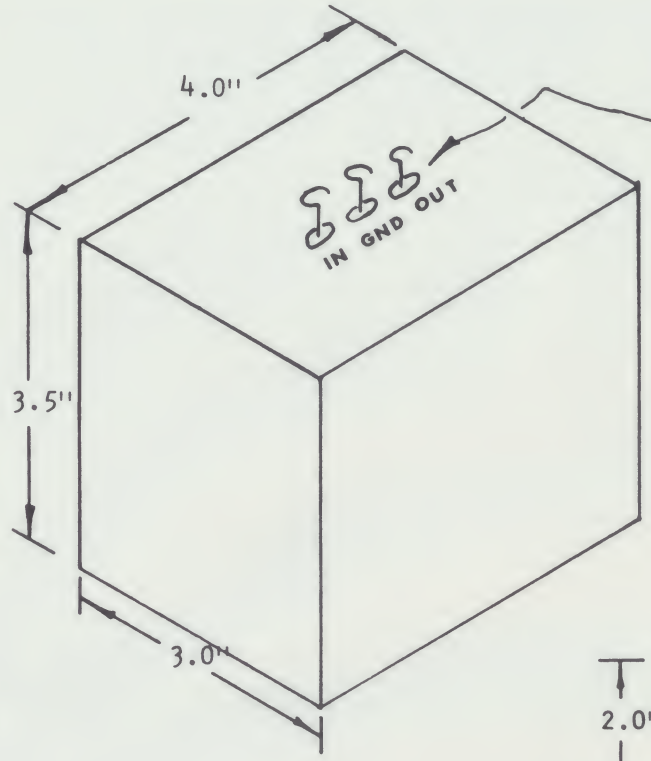
OPERATING TEMPERATURE RANGE: -25°C to + 75°C

VOLTAGE TEST: 300 volts.

CONFIGURATION: For time delays of greater than 10 nanoseconds, a box length of $6\frac{1}{4}$ inches excluding connectors is desirable. Width is determined by Delay. A 100 nanosecond delay requires approximately $5\frac{1}{4}$ inches width. Height of box is 3/4 inches for delays up to 100 nanoseconds, and 1 inch for delays between 100 and 200 nanoseconds.

MATERIAL	FINISH	HEAT TREAT / WEIGHT
DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED: FRAC. ± 1/64; DEC. ± .005; ANG. ± 30′	TITLE: NANALINE – C	BEL FUSE INC. JERSEY CITY, N.J.
SCALE / NO. REQ'D	DRAWN EHZ DATE 4/15/64	SIZE / DRAWING NUMBER BF-20-112 / ISSUE cat A
NEXT ASSY.	CHECKED DATE	
	APPROVED WRG DATE 4/16/64	

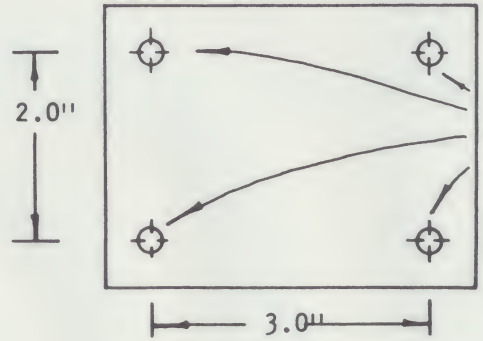
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL



	PART NUMBER	A	B	C	D	E
	DELAY usec	5	10	15	20	25
	Tr usec	.25	.50	.75	1.0	1.25
	IMPEDANCE	1000	500	335	250	200
*	Td/ SECTION	.064	.128	.192	.256	.320

* INCREMENTS AT WHICH UNIT MAY BE TAPPED- usec.

BOTTOM



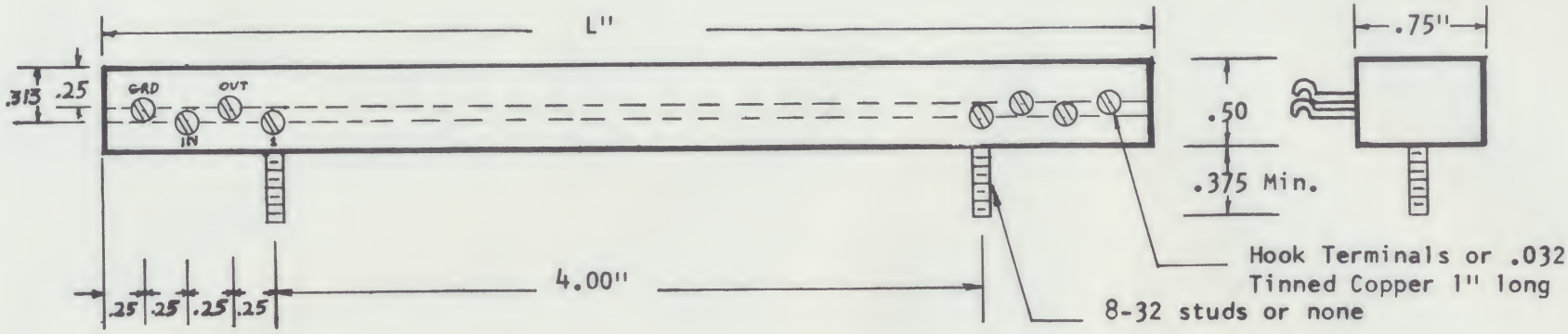
ELECTRICAL SPECIFICATIONS:

1. 300 VOLT TEST.
2. TEMPERATURE RANGE:
   -25°C to +75°C

MATERIAL: HERMETICALLY SEALED CAN	FINISH	HEAT TREAT / WEIGHT
DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED: FRAC. ± 1/64; DEC. ± .005; ANG. ± 30'	TITLE: **Td/Tr = 20:1 LUMPED CONSTANT DELAY LINE**	bel BEL FUSE INC. JERSEY CITY, N.J.
SCALE NONE; NO. REQ'D; NEXT ASSY.	DRAWN EHZ DATE 4-1-64; CHECKED HB DATE 4-1-64; APPROVED WRG DATE 4-2-64	SIZE; DRAWING NUMBER BF-19-115; ISSUE CAT A

REVISIONS

SYM	DESCRIPTION	DATE	APPROVAL
B	Revised and Redrawn	12/21/66	



Part Number	Case	L"	Terminals	Mounting	Delay nsec	Tr nsec	Taps nsec	Impedance	Voltage	Temp °C
BF-14-131 A	Epoxy	6 1/8	Wire	NONE	100	8	5	500 Ohms	100 VDC	-25 to +75
BF-14-131 B	Epoxy	6 1/8	Wire	NONE	500	40	25	500 Ohms	100 VDC	-25 to +75
BF-14-131 C	Epoxy	6 1/8	Wire	NONE	1000	80	50	500 Ohms	100 VDC	-25 to +75
BF-14-131 AX	Epoxy	6 1/8	Hook	STUDS	100	8	5	500 Ohms	100 VDC	-25 to +75
BF-14-131 BX	Epoxy	6 1/8	Hook	STUDS	500	40	25	500 Ohms	100 VDC	-25 to +75
BF-14-131 CX	Epoxy	6 1/8	Hook	STUDS	1000	80	50	500 Ohms	100 VDC	-25 to +75
BF-14-131 D	Metal	6	Hook	STUDS	5000	500	250	500 Ohms	100 VDC	-25 to +75

MATERIAL Epoxy Case or Hermetically Sealed Can

FINISH

HEAT TREAT

WEIGHT

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED

FRAC.	DEC.	ANG.
± 1/64	~~XX~~ ~~XXX~~	± 30'

TITLE

MULTI-TAP DELAY LINE

bel BEL FUSE INC. JERSEY CITY, N.J.

SCALE NONE

NO. REQ'D

NEXT ASSY.

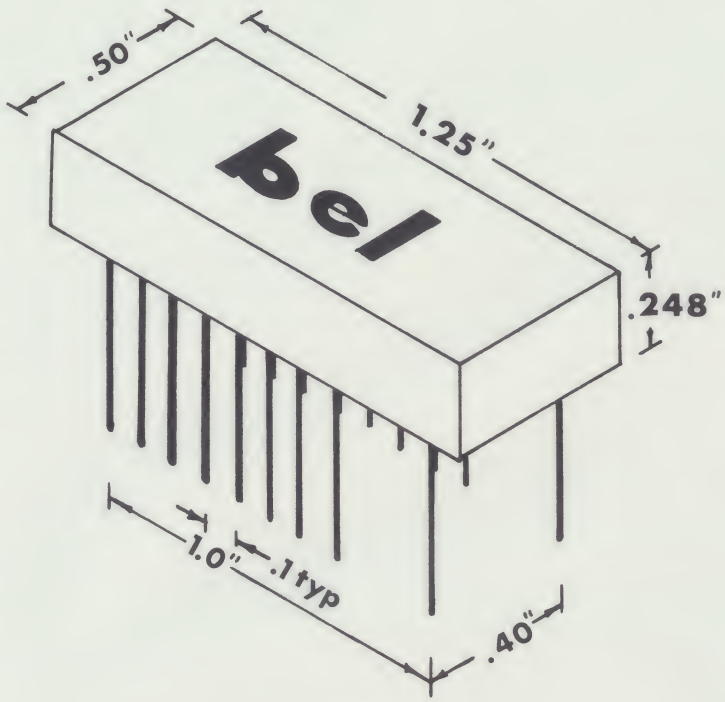
DRAWN RW DATE 12/21/66

CHECKED SB DATE 12/21/66

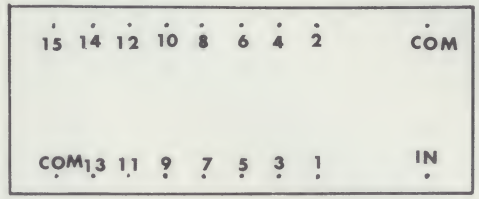
APPROVED SS DATE 12/21/66

SIZE	DRAWING NUMBER	ISSUE
	BF-14-131	CAT B

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL



TOP VIEW OF PIN POSITION PLAN



PART NUMBER	IMPEDANCE	RISE TIME
BF-14-155-1	93 ohms	7 nsec max
BF-14-155-2	200 ohms	7 nsec max
BF-14-155-3	500 ohms	7 nsec max

ELECTRICAL SPECIFICATIONS:

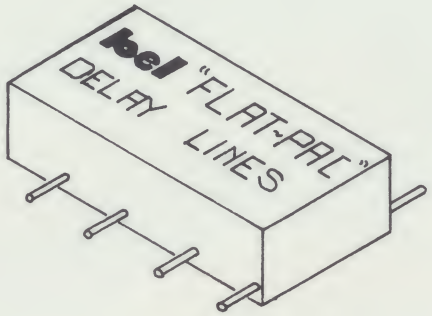
DELAY: 15 nsec tapped every 1 nsec ±1nsec.

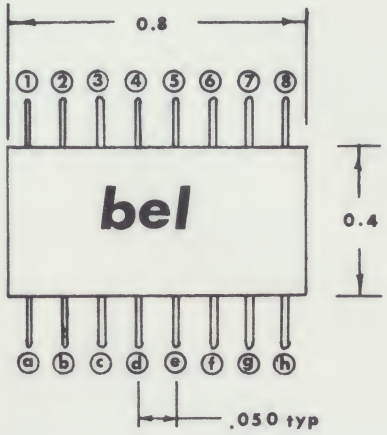
TEMPERATURE RANGE: -25°C to +75°C

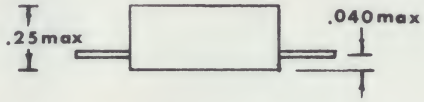
NOTES:
1. Leads to be # 20 AWG tinned copper wire, $\frac{1}{2}$" minimum length.

MATERIAL: EPOXY ENCAPSULATION	FINISH		HEAT TREAT / WEIGHT
DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED: FRAC. ± 1/64; DEC. ± .005, ±.015; ANG. ± 30'	TITLE: TAPPED DELAY LINE		BEL FUSE INC. JERSEY CITY, N.J.
SCALE: NONE; NO. REQ'D	DRAWN EHZ	DATE 11/29/65	SIZE: — DRAWING NUMBER: BF-14-155 ISSUE: cat B
NEXT ASSY.	CHECKED	DATE	
	APPROVED	DATE	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL

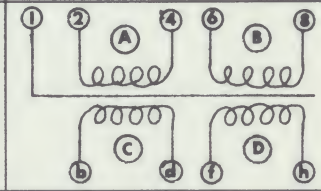
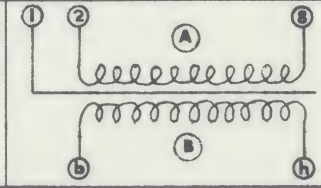
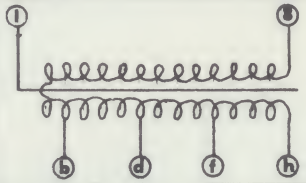






MATERIAL	FINISH	HEAT TREAT WEIGHT	
DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED FRAC. ± 1/64 · DEC. ± .005 · ANG. ± 30′	TITLE **MICRO-MODULE DELAY LINE**	BEL FUSE INC. JERSEY CITY, N.J. sheet:1	
SCALE · NO. REQ'D NEXT ASSY.	DRAWN DATE CHECKED DATE APPROVED DATE	SIZE · DRAWING NUMBER · ISSUE BF-14-200 · CAT O	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL

PART NO.	SCHEMATIC	DESCRIPTION	CHARACTERISTICS
FP4-4		A 4 section delay line with each section operating independently.	SECTION A,B,C, & D. DELAY: 4 nsec ±½ nsec/section RISETIME: 1.3 nsec/section IMPEDANCE: 100Ω±10%
FP2-8		A 2 section delay line with each section operating independently.	SECTION A & B DELAY: 8 nsec ±½ nsec/section RISETIME: 3.5 nsec/section IMPEDANCE: 100Ω±10%
FPT-5		A multiple tapped delay line giving various delays from the same input signal.	DELAY: 14.5 nsec tapped at 8.5, 10, 11.5, and 13 nsec ±1 nsec. RISETIME: <5 nsec IMPEDANCE: 100Ω±10%
FP-XX	To your spec	To your spec	To your spec

MATERIAL	FINISH	HEAT TREAT WEIGHT	
DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED FRAC. ± 1/64 · DEC. ± .005 · ANG. ± 30'	TITLE **MICRO-MODULE DELAY LINE**	BEL FUSE INC. JERSEY CITY, N.J. sheet:2	
SCALE · NO. REQ'D NEXT ASSY.	DRAWN · DATE CHECKED · DATE APPROVED · DATE	SIZE · DRAWING NUMBER · ISSUE BF-14-201 · CAT O	